UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,518	07/22/2003	Miki Nagano	116625	5827

25944 7590 11/02/2007

OLIFF & BERRIDGE, PLC
P.O. BOX 320850
ALEXANDRIA, VA 22320-4850

EXAMINER	
TRAN, TUYETLIEN T	
ART UNIT	**PAPER NUMBER**
2179	

MAIL DATE	DELIVERY MODE
11/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/623,518	NAGANO ET AL.	
	Examiner	Art Unit	
	TuyetLien (Lien) T. Tran	2179	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-15 and 31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-15 and 31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/29/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to the following communication: Amendment filed 8/10/07.

This action is made non-final.

2. Claims 5-15 and 31 are pending in the case. Claim 5 is an independent claim. Claims 5-15 and 31 are amended claims.

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/10/07 has been entered.

Claim Rejections - 35 USC § 112

4. Applicant's amendment corrects the previous rejection; therefore, the previous rejection is withdrawn.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 5, 7-9, 12, 14, 15 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigeta (Pub No US 2001/0050679 A1; hereinafter Shigeta).

As to claim 5, Shigeta teaches:

A display device connected through a network (e.g., image display device 30, see Fig. 1; note devices such as 113 and 110 are communicated to each other through a 1394 hub 108, see Fig. 10) to a plurality of terminals (e.g., image signal source 1a to 1c, see Fig. 1; note that the image signal sources can be personal computers, see col. [0064]) each of which has a terminal display (e.g., PC display_A 403, PC display_B 409 in Fig. 14) and a screen capture processor for capturing a whole or a part of the screen of the terminal display (e.g., graphics drawing unit 6a, 6b, see Fig. 2) and sends captured image data acquired in the screen capture processor (e.g., image signals are sent from the image/audio transmitting unit 9a, 9b, see Fig. 2 and [0075]), the display device comprising:

a display (e.g., image display unit 36, see Fig. 1);

a communication unit for communicating in a two-way fashion with each of the terminals (e.g., communication unit 40 and Image/audio receiving unit 32, see Fig. 1; note that device 30 can transmit and receive signal, e.g., see step S2 and S5 in Fig. 3), capable of receiving the captured image data which are captured and converted into a predetermined image size by each of the terminals (e.g., see [0087] and [0123]);

a display control unit (e.g., image display processing unit 35, see Fig. 1),

wherein the communication unit including a window area information generator for dividing the display screen of the display into windows of a number equal to the number of the terminals to be displayed (e.g., the display screen F1 is divided into 3 display areas F2, F3, F4 to display images coming from PC1, PC2, DVD, see Fig. 6 and Fig. 7) and determining a display size of a window assigned to each of the terminals in accordance with a screen size of the terminal display received from each of the terminals (e.g., resolution for each device PC1, PC2, DVD, see Fig. 7), an image synthesizer for synthesizing the captured image data received from each of the terminals in accordance with window area information generated by the window area information generator so as to generate synthesized image data (e.g., see Fig. 6), and an image processor for displaying the synthesized image data generated by the image synthesizer, on the display (e.g., see [0087] and [0123]); and

a controller for sending the display size determined by the window area information generator to each of the terminals via the communication unit (e.g., step S2 in Fig. 3), wherein, through the communication unit, the controller receives the captured image data having the converted size equal to the display size of the window assigned to the terminal display device, from the terminal to which the display size have been sent (e.g., see [0102]), and controls the display control unit to synthesize the received captured image data into single screen multi-window format data to be displayed on the display screen of the display (e.g., see Fig. 6); and

a data storage storing a display status management file for managing a display status of the terminal display including a capture area management flag for managing as to whether a capture area in the screen capture function is designated in a full-screen capture mode or a partial-screen mode (e.g., see Figs. 3, 7, 9 and [0046], [0101], [0112]; note that the display attributes as shown in Fig. 7-9 are stored obtained by the display device and transmitted to the signal sources; further note that the size and position of the display area can be changed (e.g.,

see [0089]); one skilled in the art at the time the invention was made would implement this limitation to optimize the full resource of the display and to get user's attention on the window of interest, e.g., see [0123]);

wherein the communication unit sends the display size determined by the display status management file and the information generator to each of the terminals and receives the image data which has been captured by each terminal for a whole or a part of the display screen of the terminal display in accordance with the capture area management flag in the display status management file (e.g., see Fig. 3 and [0112]).

Shigeta does not expressly teach that the display device is a projector; however, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have implemented the multi-screen display function on a projector because Shigeta suggests to the skilled artisan that the multi-screen display functions implemented on the display device can be used for a projector (e.g., see Shigeta [0006]) to obtain the ability to display images of different image signal sources using a projector.

As to claim 7, Shigeta further teaches wherein the terminal that provides the captured image data to be displayed on the display screen of the display is selected in a two-way communication of the communication unit (e.g., communication unit 40 and Image/audio receiving unit 32, see Fig. 1; note that device 30 can transmit and receive signal, e.g., see step S2 and S5 in Fig. 3) by one of the network interactive display device and the terminal (e.g., a mouse or digitizer, see [0089]).

As to claim 31, Shigeta further teaches wherein when the captured image data captured using the capture function are of a part of the screen of the terminal display (e.g., see 12a, 12b in Fig. 2), a partial size of the part is sent from the terminal to the projector and the

display size of the window assigned to the terminal is determined on the basis of the partial size instead of the received screen size of the terminal display (e.g., see Fig. 6 and [0102]).

As to claim 8, Shigeta further teaches wherein the display control unit has an expansion display function for expanding a predetermined window from among a plurality of windows forming a multi-window screen displayed on the display screen of the display (e.g., see Fig. 8).

As to claim 9, Shigeta teaches the limitations of claim 5 for the same reasons as discussed with respect to claim 5 above. Shigeta fails to expressly teach a single-window screen selection function for switching the display screen from a predetermined window from among a plurality of windows forming a multi-window screen displayed on the display screen of the display to a single-window full screen. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the a single-window function for switching the display screen from a predetermined window from among a plurality of windows forming a multi-window screen displayed on the display screen of the display to a single-window full screen, in view of Shigeta, because Shigeta suggests to the skilled artisan that the size and position of the display area can be changed (e.g., see [0089]) to optimize the full resource of the display and to get user's attention on the window of interest.

As to claim 12, Shigeta further teaches wherein the image captured data received from the terminal is obtained by designating the whole or a portion of the display screen of the terminal (e.g., see Fig 6).

As to claim 14, Shigeta teaches further comprising a display size determining unit that divides the display screen of the display into windows of the number equal to the number of terminals to be displayed (e.g., the display screen F1 is divided into 3 display areas F2, F3, F4

to display images coming from PC1, PC2, DVD, see Fig. 6 and Fig. 7, [0006] and [0135]), and determines a display size of the window to which the terminal to be displayed is assigned (e.g., resolution for each device PC1, PC2, DVD, see Fig. 7), and a controller that sends the display size determined by the display size determining unit to the corresponding terminal (e.g., step S2 in Fig. 3) through the communication unit (e.g., communication unit 40 and Image/audio receiving unit 32, see Fig. 1), wherein the controller receives, through the communication unit (e.g., unit 40 and 32 in Fig 1), the captured image data, having the converted size equal to the display size of the window assigned to the terminal, from the terminal to which the display size is sent (e.g., see [0102]), and controls the display control unit to synthesize the received captured image data into single screen multi-window format data to be displayed on the display screen of the display (e.g., see [0087]).

As to claim 15, Shigeta further teaches wherein an aspect ratio of the window assigned to the terminal to be displayed is equalized to an aspect ratio of the display screen of the display of the terminal (e.g., note that display attributes for each area also relates to aspect ratio, see [0090] and [0091]).

7. Claims 6 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigeta in view of Matsumoto et al. (Patent No US 6,473,088 B1, hereinafter Matsumoto).

As to claim 6, Shigeta teaches the limitations of claim 5 for the same reasons as discussed with respect to claim 5 above. However, Shigeta fails to expressly teach an insertion function for inserting a new window into a currently display screen to display the new window. Matsumoto, though, teaches wherein the display control unit (e.g., display drive controller 900 in Fig. 1) has an insertion function for inserting a new window into a current display screen to

display the new window (e.g., icon I1, I2 allow a new window to be displayed on a currently display screen, see Fig. 11 and col. 11, lines 30-58).

It would have been obvious to one of ordinary skill in the art, having the teachings of Shigeta and Matsumoto before him at the time the invention was made to have utilized the insertion function as taught by Matsumoto to the multi-area display system as taught by Shigeta so that when an erased or minimized windows are desired to be inserted into a currently display screen, the desired windows can be opened without having to restart the display system.

As to claim 10, Shigeta teaches the limitations of claim 5 for the same reasons as discussed with respect to claim 5 above. However, Shigeta fails to expressly teach an erase function for erasing a predetermined window from among a plurality of windows forming a multi-window screen displayed on the display screen of the display. Matsumoto, though, teaches wherein the display control unit (e.g., display drive controller 900 in Fig. 1) has an erase function for erasing a predetermined window from among a plurality of windows forming a multi-window screen displayed on the display screen of the display (e.g., window area for input 4 is erased or minimized when the control unit detects a power saving mode, see Fig. 13 and col. 12, lines 63-67).

It would have been obvious to one of ordinary skill in the art, having the teachings of Shigeta and Matsumoto before him at the time the invention was made to have utilized the erase function as taught by Matsumoto to the multi-area display system as taught by Shigeta to improve the visibility of the display screen by erasing the display area of invalidating windows.

As to claim 11, Shigeta and Matsumoto teach the limitations of claim 10 for the same reasons as discussed with respect to claim 10 above. Matsumoto further teaches wherein the predetermined window is selected by one of the network interactive display device and the

terminal (e.g., display pointer 702) in a two-way communication of the communication unit (e.g., two-way communication between source devices 101 to 104 and bus controller 1000 to the display device 900, see Fig. 1) thereof. Thus, combining Shigeta and Matsumoto would meet the claimed limitations for the same reasons as discussed in claim 10 above.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shigeta in view of Mondal (Pub No US 2003/0110244 A1, hereinafter Mondal).

As to claim 13, Shigeta teaches the limitations of claim 5 for the same reasons as discussed with respect to claim 5 above. However, Shigeta fails to expressly teach that the captured image data received from the terminal is obtained by detecting and capturing only a change on the display screen of the terminal. Mondal, though, teaches the captured image data received from the terminal is obtained by detecting and capturing only a change on the display screen of the terminal (e.g., see [0022]).

It would have been obvious to one of ordinary skill in the art, having the teachings of Shigeta and Mondal before him at the time the invention was made to have utilized the method and function of only transmitting the changes in display data as taught by Mondal to the multi-area display system as taught by Shigeta to reduce the amount of data transmitted to the maintenance computing system so as to reduce the affect on network bandwidth (e.g., see Mondal [0022]).

Response to Arguments

9. Applicant's arguments with respect to claims 5-15 and 31 have been considered but are not persuasive.

♦ In response to Applicant's arguments that the cited prior art do not teach or suggest designating a captured area by displaced status management file, and receiving image data of the designated captured areas from terminals, then displaying the image data in its display (e.g., see Applicant's remark page 6, Para 4), the examiner notes that these limitations of claim 5 are clearly addressed as rejected supra.

Conclusion

The prior art made of record on form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. § 1.111(c) to consider these references fully when responding to this action.

It is noted that any citation to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. In re Heck, 699 F.2d 1331, 1332-33,216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006,1009, 158 USPQ 275,277 (CCPA 1968)).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TuyetLien (Lien) T. Tran whose telephone number is 571-270-1033. The examiner can normally be reached on Mon-Friday: 7:30 - 5:00, off on alternating Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on 571-272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

T.T
10/18/2007

Lien Tran
Examiner
Art Unit 2179

WEILUN LO
SUPERVISORY PATENT EXAMINER